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It was the purpose of this study to assess the extent of growth of machine shorthand programs, evaluate current practices related to its instruction, and determine whether its results warranted encouragement by the State Education Department. The machine system was compared to the manual system in the areas of: (1) scope and sequence of curriculums, (2) cost to the school district, (3) educational backgrounds of graduates, (4) types of businesses or industries which employ machine stenographers, (5) employment opportunities, (6) salaries and vocational use of shorthand skills, and (7) potential promotional opportunities and achieved promotional advancement. The study included 699 machine graduates and 750 manual graduates from two 2-year colleges and 14 secondary schools. Results indicated: (1) although the manual shorthand writers were slightly more successful, it was not due to major differences in curriculum offerings or educational background of the machine and manual writers, and (2) a blanket recommendation concerning the introduction of machine shorthand programs could not be made since the introduction of such programs should be considered on an individual school system basis, after close consideration of the group and the employment needs of the area. (MM)

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The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Division of Evaluation
Albany, New York 12224

Supported by a State allocation
of funds for research under Section 4a
of the Federal Vocational Education Act of 1963

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FOREWORD

This comparative study of the process and product of machine shorthand education in the schools and colleges of New York State was developed as a result of a series of discussions in 1965-66 involving Dr. Herbert Tonne, then Chairman of the Department of Business Education of New York University; Hobart Conover, Chief of the Bureau of Business and Distributive Education; John Whitcraft, Director of the Division of Occupational Education; and Alan G. Robertson, then Chief of the Bureau of Occupational Education Research; the latter three of the New York State Education Department.

In the past 8 years the growth of machine shorthand programs has gained momentum, and inquiries have been received concerning the feasibility of starting new programs. It was felt this was an appropriate time to assess the extent of its growth, evaluate current practices related to its instruction, and determine whether its results as measured by student vocational preparation warranted encouragement by the State Education Department.

Accordingly, a broad research design was developed in the Bureau of Occupational Education Research and a graduate student of Dr. Tonne's, Mrs. Violet Drexler, was engaged by the Bureau as Principal Investigator. During the period of the field investigation from September 1966 through June 1967, Mrs. Drexler was on leave of absence from the State University Agricultural and Technical College at Farmingdale, where she serves as Assistant Professor of Business Administration.

In addition to carrying out the investigation in the field, Mrs. Drexler developed the final research plan, both under the direct supervision of Alan Robertson.

The Office of Research and Evaluation wishes to acknowledge the valuable assistance of Allan Sarfaty of the Stenograph Company, in locating participating schools, arranging meetings with local school and college personnel, and in supplying and reviewing background data on the development of the Stenograph Company.

Educators wishing additional information on the research aspects of this study should contact either Dr. Drexler at the college in Farmingdale, New York, or Alan Robertson, Director of the Division of Evaluation, State Education Department, Albany, New York 12224.

Those inquiring about the implementation of the findings of this study in business education programs and policies are advised to contact Hobart Conover, Chief, Bureau of Business and Distributive Education, State Education Department, Albany, New York 12224.

CARL E. WEDEKIND
Division of Research

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Introduction

There is a continually increasing demand for skilled office personnel. Among those most sought after are secretaries and stenographers who are able to take dictation at high rates of speed and transcribe the dictated material into mailable form. The increasing complexity of business and industrial technical vocabularies as well as the increasingly intensive training of business executives in efficient dictation, make it imperative that business educators train secretaries and stenographers to develop superior stenographic skills. Moreover, the expanding needs of business and government, as well as automation, are constantly opening new areas for stenographic occupations.

Our present public education system urges students into more subject areas than ever before. To produce liberally educated citizens, business educators must search for a way to reduce the time required to develop occupational skills. Studies have proved that machine shorthand is one possible means of reducing the time needed to provide marketable stenographic skills (Burton 28).

Although most shorthand teachers of the manual method recommend that the shorthand curriculum be open to students of at least average ability, some advocates of machine shorthand believe this system can also be used to train students of lower mental capacities in the mastery of a workable vocational skill.

Machine shorthand teachers point out that since less time is needed for teaching theory in machine shorthand, more time can be devoted to such transcription requisites as grammar, word recognition, and spelling, all of which are generally needed by poorer students. On the other hand, however, it has been suggested that the less intelligent students' inability to spell, to recognize complete sentences, and to make subject-verb agreements would probably make it difficult for them to become proficient stenographers regardless of the shorthand system they tried to learn (Haagblade, 39). Therefore, even though curriculums in machine shorthand may be opened to a more heterogeneous group, it is possible that only the graduates of average or better-than-average ability will succeed as machine stenographers.

Nevertheless, because it requires no arbitrary letter outlines or symbols for words and phrases, the theory of machine shorthand can be learned in one semester, with the remaining time devoted to increasing proficiency. One study (Kastelic, 47) which compared the achievements of machine and manual writers on the New York State

Regents Examination, showed that although all the machine writers took the Regents with one full semester less training than the manual writers, the grades of the machine writers averaged 88 — a grade 18 points above the manual writers' average. Also, there were no failures in the machine group.

The final evaluation of shorthand — as of any skill — is the success with which it prepares the student for job use. Thus, though one shorthand system may be easier to learn than another and more efficient to apply, it will have little merit unless it is accepted by business and industry. Unless a successful employment status for writers of machine shorthand can be demonstrated, the system cannot be considered successful vocational training.

It was the purpose of this study to determine the acceptability by business and industry of stenographers employing the machine system as well as the feasibility of teaching this system at the high school level. The study investigated the vocational use of machine shorthand by the graduates of machine shorthand curriculums and gathered information to determine the need for existing courses in machine shorthand as well as the potential merit of establishing future programs. In addition, a secondary goal of this study was to compare these aspects of the machine system against the baseline of the manual system.

Seven subordinate problems have been considered in the study:

I. Indentification and analysis of scope and sequence of curriculums in machine as compared to manual shorthand

II. Determination of costs to school districts teaching machine as compared to manual shorthand

III. Identification of educational backgrounds of graduates of machine as compared to manual shorthand curriculums

IV. Identification of the types of businesses or industries, both private and public, which employ machine stenographers

V. Determination as to whether machine shorthand writers are denied positions because they take dictation with a mechanical device

VI. Comparison of salaries of machine and manual stenographers, as well as a comparison of the vocational use of shorthand skills

VII. Investigation of potential promotional opportunities and achieved promotional advancement of machine as compared to manual stenographers.

This investigation was limited to all graduates of machine shorthand curriculums in the public secondary and post secondary educational institutions in New York State for the years 1962-66, and an equivalent number of manual shorthand graduates from the same or matched institutions, included for control purposes. Graduates employed as court reporters were excluded. Three basic assumptions underlie the study:

(1) That teaching methods in both machine and manual shorthand are adequate to produce employable stenographers

(2) That present theory, or body of principles, used for recording the spoken word in manual shorthand systems as well as on machines is sufficient and satisfactory

(3) That strong developments of a vocational skill assists in transition from education to initial employment, as well as employment advancement.

The normative-survey or descriptive method of research (as described by Good and Scates, 6) was employed for the study, and data were collected by means of three questionnaires:

(1) For schools with an established curriculum in machine shorthand and who had graduates during the years 1962-66

(2) For the graduates themselves of those programs

(3) A comparable number of graduates of the manual shorthand curriculums in the same schools (see Appendices).

In addition to providing a description of the current status, many normative-survey or descriptive studies serve as a source of ideas for change and improvement. Consequently, after the data for this study were tabulated and summarized, an attempt was made to draw generalizations which might advance knowledge in the subject area.

Related Studies

Related studies have been published touching upon machine shorthand history, accelerated learning in machine shorthand, student motivation, facility of learning, teaching techniques, fatigue factors, transcription practices, and occupational analysis of machine shorthand.

The first model of Stenotype machine was invented by Ward Stone Ireland who began producing the machine in 1911 in partnership with R. M. Bowen. Their Universal Stenotype Company had rapid success until World War I, when economic reversals forced it to discontinue operations. A new Stenotype Company was formed in 1927 by LaSalle Extension University, and a third, Stenographic Machines, was founded in 1938 by M. H. Wright. After a dormant period during World War II, Wright's company expanded and at present is the only firm in this country manufacturing this kind of equipment (Boling, 27; Blevins, 16).

Studies in accelerated learning of machine shorthand have indicated that a machine shorthand writer with marketable skills can be trained in a shorter time than it takes to develop the same level of skill in a manual shorthand writer. Student motivation contributes strongly to speed of learning, and classroom studies have demonstrated that students particularly enjoy learning machine shorthand because of the easy mastery of theory, the interest in working with a machine, and the ability to see immediate results of their knowledge (Anderson, 25; Garrett, 38; Owens, 56).

Numerous comparative studies of machine and manual stenographers have drawn the conclusion that, all other factors being equal, machine shorthand is easier to learn, and that speeds achieved with machine shorthand are far in excess of those achieved with the manual method in the same length of study. It was also found that machine notes, being more easily read than manual notes, made transcription a faster, simpler process. Since learning time in general is shortened, machine shorthand alleviates significantly the high rate of student failure and attrition in beginning shorthand courses (Weddle, 22; Kastelic, 47; Palmer, 57).

Although it has been taught since 1912, machine shorthand teaching techniques have had little attention in professional literature. A 1955 study was the first to outline teaching principles and develop instructional materials for use in high schools. It has generally been found that teaching methods in machine shorthand are highly similar to those of manual systems; the two have almost identical approaches to dictation brief forms and transcription. For these reasons, the manual shorthand teacher can quickly become an adequate, although not expert, teacher of machine shorthand (Kahn, 18; Ruegg, 62).

Several comparative studies in fatigue factors between machine and manual shorthand writers indicate that machine writers feel less strain and expend less effort, hence make significantly fewer errors

during extended periods of dictation and are more relaxed at the ends of the periods (Foss, 37; Woodward, 75; Anderson, 25).

Studies in transcription practices report that since Stenograph notes are more easily read than manual notes, the transcriber's typewriter carriage can move more rapidly, with no pauses for deciphering notes. Since penmanship is not a factor in machine shorthand, the transcriber of Stenograph notes need not be the person who took them. Interchanging of notes, then, is practical and satisfactory. In these ways, transcription rates can be notably increased (Adams and Garamoni, 23).

Occupational analyses of machine shorthand generally indicate an increasing acceptance and approbation of the system by business and industry. Machine writers often command higher starting salaries than manual writers. A majority of the machine shorthand writers studied had found employment in positions which required an extensive shorthand ability, in both public and private business, including government, law and court reporting (Klein, 48; Manos, 52; Palmer, 57).

Collection of Data

The instruments and procedures used in collecting data in this study varied for the answers to each subproblem delineated. The solution to Subproblem I, "Identification and analysis of scope and sequence of curriculums in machine as compared to manual shorthand," provided a background for the entire study and served as the basis for comparison of all information on machine and manual graduates. If the final solution to the main problem indicated that one group had achieved more occupational success than the other, it would be essential to be able to determine whether major differences in curriculum offerings were responsible.

Subproblem II, "Determination of costs to school districts in teaching machine as compared to manual shorthand," bore similarly upon the main problem's final solution, in that if there were no differences in employment status of graduates from machine and manual curriculums, the system which cost least to the school district could be recommended.

For these two subproblems, Questionnaire No. 1 was designed. The draft questionnaire was sent to a pilot group of business educa-

tors and amended according to suggestions received. The New York State Education Department assisted in selecting the schools to participate in the study. As decided in a research design planning conference with Education Department staff, all public secondary schools and public 2-year colleges in the State with a curriculum in machine shorthand and graduates during the years 1962-66 were selected. Contact with the 2-year colleges was effected with the cooperation of the office of the Executive Dean for 2-Year Colleges, Dr. Sebastian V. Martorana; Mr. John Henderson and Mr. Robert Frazer of that office assisted the investigator. The curriculums of the secondary schools were reviewed with the Bureau of Business and Distributive Education, directed by its Chief, Hobart H. Conover, and the New York City secondary school curriculums were reviewed with the assistance of Dr. Joseph Gruber, former Director of Distributive and Business Education for the City of New York. Approval for the investigation in New York City was obtained from Dr. J. Wayne Wrightstone, Assistant Superintendent of the Bureau of Educational Research for New York City.

Fourteen schools with curriculums in machine shorthand were finally selected: 2 junior colleges, 5 New York City secondary schools, and 7 upstate and Long Island secondary schools. Of these, 3 *did not* also have a manual shorthand program; as controls, therefore, 3 additional schools were selected which had manual shorthand curriculums only. The 3 control schools were chosen on a basis of nearness of location to the machine schools, comparable size and type of student body, and location in the same employment market region. This brought the total of participating schools to 17: 11 having both machine and manual shorthand, 3 having only manual, and 3 having only machine.

Each school was visited by the investigator, and conferences were held with the chief administrative officer, the chairman of the Business Education Department, and the teacher of machine shorthand. At each school a teacher-coordinator was appointed who completed Questionnaire No. 1 (see Appendix B), supplied information about the students' educational backgrounds, and made contact with the school's graduates for the followup section of the research.

Information supplied by the teacher-coordinators provided the solution to Subproblem III, "Identification of educational backgrounds of graduates of machine as compared to manual shorthand curriculums." Grades in shorthand, typing, and other business

courses, grades in English, general scholastic averages and scores on standardized intelligence tests, might all have influenced the occupational success of the graduates. Arithmetic means and decile rank graphs were prepared for easy comparison.

The solutions of the Subproblems IV-VII were approached by means of Questionnaire No. 2 for students of machine shorthand and Questionnaire No. 3 for students of manual shorthand (see Appendix B). These were tested on a pilot group of shorthand graduates, adjusted into final form, and mailed to all graduates by the teacher-coordinators. There were 1,449 questionnaires sent out; a total of 699 to machine graduates and 750 to manual graduates.

The solution to Subproblem IV, "Identification of the types of businesses and industries, both private and public, which employ machine stenographers," was intended to reveal whether machine or manual writers were especially represented in any particular business or industry. To this end, graduates were asked about present and past employment using their stenographic skills. Seven categories of business and industry were set up to accommodate the range of answers: (1) Manufacturing, (2) Banking and finance, (3) Insurance, (4) Government (State, Federal, or local), (5) Utility, (6) Retailing, (7) Other.

Questionnaire items which contributed to the solution of Subproblems V, VI, and VII provided additional background information for the comprehensive comparison of the two shorthand systems. Subproblem V specified, "Determination as to whether machine shorthand writers are denied positions because they take dictation with a mechanical device;" Subproblem VI, "Comparison of salaries of machine and manual stenographers;" Subproblem VII, "Investigation of potential promotional opportunities and achieved promotional advancement of machine as compared to manual stenographers."

If wages differed significantly, the more remunerative shorthand system could be recommeded; if promotional advancement differed significantly, further study should be undertaken to determine what factor(s) in the graduates' educational background or shorthand system studied was responsible. All this information was classified according to the students' educational level and geographic location, i.e., 2-year colleges, New York City secondary schools, and upstate and Long Island secondary schools.

Comparison of Curriculum — Summary of Results

The detailed comparison of schools and curriculum offerings in machine and manual shorthand programs resulted in scope and findings as follows:

Among the selected schools, there were 2 two-year colleges, 4 secondary schools accommodating grades 10-12, 4 accommodating grades 9-12, 1 accommodating grades 8-12, and 6 accommodating grades 7-12. The schools were located in towns and cities with populations ranging from under 10,000 to over 1,000,000 (New York City). Seven were located in rural areas, 4 in suburban areas, and 6 in urban centers (5 in New York City, 1 in Ithaca). All the suburban schools and 5 of the rural schools were within commuting distance of urban centers where graduates could seek employment. The 2 rural schools not within commuting distance of an urban center were the 2-year colleges; since, however, their students are recruited from all areas of the State, their graduates do not necessarily seek employment in the area immediately surrounding the college. Six of the schools had a student population under 1,000; 7 had a population of 1,000-2,999; 3 from 3,000-4,999; and 1 over 5,000.

Information was sought from the schools in 3 major areas: the nature of instructional programs in manual and machine shorthand; selected cost factors in the 2 programs; and size and training of faculty in the 2 programs.

1. Comparison of Curriculum Offerings

   1.1 Period of time shorthand curriculums were in effect (see Tables I and II, Appendix A)

Machine	*Manual*
1-8 years	10-50 years

   Three of the schools with a machine program considered it experimental.

   1.2 Sequence of curriculums offered (see Table III, Appendix A)

Machine	*Manual*
4 schools offered a 3-year sequence	11 schools offered a 3-year sequence

4 schools offered a 2-year sequence	3 schools offered a 2-year sequence
6 schools offered a 1-year sequence	No school offered a 1-year sequence

1.3 Enrollment (see Table IV, Appendix A)

Machine	*Manual*
1st year: 298 girls, 17 boys	1st year: 1,878 girls, 7 boys
2nd year: 185 girls, 8 boys	2nd year: 1,027 girls, 3 boys
3rd year: 40 girls, 2 boys	3rd year: 387 girls, 1 boy
Total: 550 students	Total: 3,303 students

1.4 Number of class meetings (see Table V, Appendix A)

Machine	*Manual*
1st year: 5-10 periods per week	1st year: 5 periods per week
2nd year: 5-10 periods per week	2nd year: 10 period per week
3rd year: 10 periods per week	3rd year: 10 periods per week

1.5 Outside assignments

Machine	*Manual*
Of the 14 schools, 12 assigned outside practice	All 14 schools assigned outside practice

1.6 Minimum speed standards (see Table VI, Appendix A)
The 2-year colleges set an 80 wpm minimum standard at the end of the first year and 120 wpm at the end of the second year for both machine and manual writers.

Secondary Schools

Machine	*Manual*
1st year: 50-100 wpm	1st year: 40-80 wpm
2nd year: 80-140 wpm	2nd year: 80 wpm (Regents standard)
3rd year: 100-120 wpm	3rd year: 90-120 wpm

2. Selected Cost Factors

2.1 Textbooks

Machine	*Manual*
$2.50 — $18.07 per pupil	$2.25 — $18.75 per pupil

2.2 Special equipment

The equipment investigated was that purchased by the schools exclusively for student use in the shorthand course. In the machine programs these were the shorthand machines themselves. No equipment was purchased specially for the manual programs. In the 2-year colleges each student purchased his own machine; it was reported that the costs to secondary schools which purchased machines ranged from $1,800 to $5,160 per classroom equipped. One school rented the equipment at a cost of $75 per machine per annum.

3. Faculty

3.1 Number of faculty (see Table VII, Appendix A)

In the schools and colleges studied, of a total of 115 teachers in business departments prepared to teach shorthand, 32 could teach machine shorthand, 111 could teach manual shorthand. Of these, 83 could teach manual shorthand only; 4 could teach machine only; and 28 could teach both.

3.2 Teacher training

All 111 manual shorthand teachers (with the possible exception of 2-year college teachers) had teacher training courses in preparation for teaching shorthand. Of the 32 teachers of machine shorthand, 28 had had similar preparation in teacher training courses; however, these standard methods courses are designed exclusively for the teaching of manual shorthand — the *machine teachers had had only short workshop courses in skills and methods in machine shorthand teaching.* Four teachers of machine shorthand had no previous certification or license for teaching manual shorthand.

Educational Background of Graduates

Since educational and skill differences affect occupational success, it was necessary to examine the educational backgrounds of both

the machine and manual writers. To this end, 3 factors were considered: amount of preparation in business subjects; grades received in subjects which contribute to success in stenographic occupations; academic achievement and ability as demonstrated by class rank, IQ, and general scholastic average.

The original intention was to match pairs of machine-manual writers with comparable backgrounds; but since it was impossible to find a sufficient number of manual writers with the *same limited training* in shorthand as the machine writers,* an arithmetic mean was computed for each group, and comparisons then established.

1. Number of semester courses completed:	*Machine*	*Manual*
Shorthand (See Fig. 1, Appendix A)	3.0	3.9
Typing (See Fig. 2, Appendix A)	2.3	2.5
Related business courses	5.2	6.0

2. Grades received:	*Machine*	*Manual*
Shorthand class grade (See Fig. 3A, Appendix A)	77.8	81.4
Shorthand Regents grade (See Fig. 3B, Appendix A)	77.4	77.5
Typing class grade	76.1	77.9
English grade	74.1	75.9

3. Academic achievement: (See Fig. 4, Appendix A.)

   Rank in senior class was classified according to decile. The largest percentage of machine writers fell into the 8th decile; the largest percentage of manual writers into the 9th. Of the machine writers 70.5 percent were in the upper half of their class; 72.9 percent of manual writers were in the upper half of their class.

Percentile scores were obtained for the students' raw scores on standardized intelligence tests on the basis of national norms and these percentile frequencies classified into deciles. Again, the largest percentage of machine writers appeared in the 8th decile, and the largest percentage of manual writers in the 9th. Of the machine writers 67.5 percent had intelligence score percentiles in the upper

* This is due to the proportionately high number of graduates completing one year programs in New York City high schools.

half of the distribution, and 73.2 percent of the manual writers had intelligence test score percentiles in the upper half of the distribution; however, on the basis of these test scores there does not appear to be a statistically significant difference between the machine and manual groups in this respect. (See Fig. 5, Appendix A.)

Occupational Use of Shorthand

The critically significant item of Questionnaires No. 2 and No. 3 for the information on occupational use of machine and manual shorthand was the question, "Are you presently employed utilizing your stenographic skills?" Only 25.8 percent of machine shorthand graduates as contrasted to 50.9 percent of manual shorthand graduates responded in the affirmative. (See Table IX, Appendix A.) To determine precise job titles of these graduates, job descriptions from the *Dictionary of Occupational Titles* were presented and the graduates were requested to check the description most closely resembling their present occupation. Secretarial duties were performed by 70.77 percent of machine writers and 70.4 percent of manual writers, stenographic duties by 22.8 percent of machine and 28.6 percent of manual writers. Little significant difference between the 2 systems could be determined in this respect.

The large number of graduates not using stenographic skills in employment were questioned on their present occupations to discover whether these jobs were at all related to stenographic work. Of these, 47.9 percent of machine writers and 37.4 percent of manual writers *were employed in related occupations.* It is interesting to note that 21.3 percent of the above machine writers and 30.2 percent of manual writers had chosen to continue their education and were not employed *because they were students.* (See Table X, Appendix A.)

The distribution of businesses and industries which employ shorthand writers showed manufacturing industries to be the largest employment market for both machine (40.2 percent) and manual (29.1 percent) writers. Next in size was government, employing 22.8 percent of machine writers and 20.3 percent of manual writers. The largest difference between machine and manual writers appears in the figures for banking and finance — 1.1 percent of machine writers, 8.6 percent of manual writers — businesses which are traditionally conservative in employment policies.

Graduates not using their stenographic skills in present employment were questioned about previous and part-time employment as stenographers; of these, 39.5 percent of machine and 18.6 percent of manual writers had previously been employed full time; 8 percent of machine and 14 percent of manual writers had secured part-time employment and used their stenographic skills.

Salary statistics indicated that the largest percentage of machine (31.6 percent) and manual (21.8 percent) writers received salaries of $4,500 to $4,999. (See Table XI, Appendix A.) Some 21.7 percent of machine writers and 29 percent of manual writers had received salary promotions while employed in stenographic occupations; 19.6 percent of machine writers and 28 percent of manual writers had job duties which included the supervisory responsibilities. Gross salary differences were significant at the 0.05 percent level in a *Chi Square* test. However, this difference was strongly influenced by the greater than "expected" number of manual writers receiving less than $4,000 per year, and the fewer than "expected" machine writers reported in this salary bracket. Frequency differences in the salary categories above $4,000 are not deemed to be significantly different.

There was little difference in the number of job interviews between groups before the graduates accepted stenographic employment; 92.4 percent of machine writers and 90.6 percent of manual writers had accepted employment within the first 4 interviews; 83.7 percent of machine writers and 79.2 percent of manual writers had had 2 or fewer job offers, possibly because graduates tended to be eager to accept employment. The manual writers had more jobs offered to them and as a result could be more selective.

In the area of special employment considerations of machine writers, 12 percent of machine writers believed the use of the machine to be a liability in obtaining employment; 48 percent thought it a definite asset. (See Tables XII and XIII, Appendix A.) Of the 63 machine writers who reported that comments on the machine were made by interviewers, 22 reported favorable comments, 11 negative comments, and 30 neutral. A question on means of acquisition of the machine revealed that 75 percent of the graduates had purchased new machines, 17.4 percent had purchased them used. None of the 92 graduates currently employed as stenographers reported that the company had purchased the machine. (See Table XIV, Appendix A.) Some 39 machine writers reported that they had at some previous time attempted learning another shorthand system: 36 Gregg, 2 Pitman, and 1 alphabetic system.

CONCLUSIONS AND RECOMMENDATIONS

I. THE CURRICULUMS IN MACHINE AND MANUAL SHORTHAND

Conclusions:

1. Because machine shorthand is a relatively new curriculum offering as compared to manual shorthand, there is little organized pattern in the courses of study and standards for evaluation of student progress.

2. The speed standards for passing grades in secondary schools are higher in the machine shorthand curriculums than they are in the manual shorthand curriculums except in the second year where the Regents standard is observed.

3. Similar selectivity practices for admission to shorthand curriculums are employed for both machine and manual shorthand programs. These practices generally limit the shorthand programs to average and above average students.

4. Second- and third-year shorthand courses are not so readily available to students of machine shorthand as they are to students of manual shorthand.

5. The machine shorthand curriculum has attracted 4.9 percent more male students to the stenographic courses than the manual curriculum, in which male enrollment was only .3 percent of the total.

6. Initiating a program in machine shorthand represents a substantial capital investment for the school districts, either in rental or purchase of equipment. Maintenance costs, however, are minimal. There is little difference between the costs of machine and manual textbooks, but because machine shorthand textbooks are paperbound, more frequent replacement is necessary.

7. Although it was assumed in this study that "teaching methods in both machine and manual shorthand are adequate to produce employable stenographers," during the course of the investigation it became apparent that while special methods and techniques in the teaching of machine shorthand do exist, *present* shorthand teacher training programs do not give them sufficient emphasis. At present, machine shorthand teachers have had basic preparation in the teach-

ing of secretarial skills, but generally have attended only 1- and 2-day workshops on the theory and teaching of machine shorthand. In addition, there is an insufficient number of teachers prepared, even to this extent, to teach machine shorthand. One secondary school (not included in this report because it had no graduates) had to discontinue its machine shorthand program for the 1966-67 academic year because the machine shorthand teacher resigned and a qualified replacement could not be found.

Recommendations

1. The present New York State syllabus for manual shorthand is inadequate when utilized for machine shorthand. A standard pattern for the courses of study in machine shorthand should be developed by the State for use in the secondary schools, to include sequence, number of class meetings, course content, standards for evaluation, and special teaching procedures.

2. When available, machine shorthand curriculums should be as extensive in their offerings as manual shorthand curriculums. If a school offers a 3-year sequence in manual shorthand, it should also offer a 3-year sequence in machine shorthand.

3. Consideration should be given to a special third-year course for machine writers at the secondary level. This course, which would be called shorthand reporting rather than secretarial practice, would attract more male students to the program and to the occupations of freelance and court reporters.

4. Programs in shorthand reporting should be established at the 2-year college level to accommodate secondary school graduates who have had machine shorthand and wish to continue it for work as freelance and court reporters. It was the opinion of the 2-year colleges represented that students cannot be trained as shorthand reporters in 2 years; but it should be possible to train in 2 years those students who bring to the 2-year colleges a background in machine shorthand.

5. If a school district is planning to initiate a program in machine shorthand, there should be a minimum of 2 teachers capable of teaching the course. A single teacher of machine shorthand is inadequate. School districts should pay the cost of special training and

should give inservice credit to the teacher for the course. Unless the schools are prepared to meet this obligation of adequate staffing, investment in the equipment is unwarranted.

6. Special methods courses for shorthand teachers in the teacher training institutions should include a chapter or unit in machine shorthand. Although machine shorthand curriculums are not yet sufficiently developed to justify entire courses in teacher-training institutions, prospective business teachers should be made aware of the existence of these programs and how teaching methodology might differ in machine shorthand.

7. The present conducted 1- and 2-day workshops for training shorthand teachers in the theory of machine shorthand are a step in the right direction, but these workshops do not constitute sufficient preparation. Courses offered to business teachers should include both the theory of shorthand and special teaching methods. When the length of time and content for these teacher education courses is extended, it will be possible to conduct them as graduate level business education courses and business teachers should then receive two or three graduate credits for them.

II. THE EDUCATIONAL BACKGROUND OF MACHINE AND MANUAL WRITERS

Conclusions

1. Graduates of manual shorthand curriculums in this study completed 0.9 more semesters of shorthand courses than the machine writers.

2. Graduates of manual shorthand curriculums completed 0.2 more semesters of typewriting courses than the machine writers.

3. Graduates of manual shorthand curriculums completed 0.8 more semesters of related business courses than the machine writers.

4. The average final class grade in shorthand achieved by manual writers was 3.6 points higher than the average final class grade achieved by machine writers.

5. Except in the New York City school, where students of machine shorthand took the Regents examination after only 1 year, the average Regents grade achieved by machine writers *was higher*

than the average Regents grade achieved by manual writers. This might be attributed to 2 factors:

A. If less class time is needed for theory instruction, more time is available for the development of transcription skills.

B. When the speed standard for classwork is higher than the Regents standard, the Regents examination is comparatively easier.

6. The average final class grade in typewriting achieved by the manual writers was 1.8 points higher than the average final class grade achieved by the machine writers.

7. The average final class grade in English achieved by the manual writers was 1.8 points higher than the final class grade achieved by the machine writers.

8. Both machine and manual writers have a tendency to appear in the upper half of the graduating class. (The largest percentage of machine writers appears in the 8th decile, and the largest percentage of manual writers appears in the 9th decile.)

9. When IQ scores of shorthand writers are ranked according to decile, the tendency is for both machine and manual writers to appear above the median. The largest percentage of both machine and manual writers appears in the 8th decile.

10. The final scholastic grade average of manual writers was 1.4 points higher than the final scholastic grade average for machine writers.

11. In all other factors of educational background considered, the manual writers on an average scored slightly higher than the machine writers.

Recommendations

1. Schools considering programs in machine shorthand should be encouraged to offer a minimum 2-year sequence.

2. Evaluation standards in both systems should be the same. Although machine writers receive lower class grades than manual writers, speed standards in machine shorthand are higher. Moreover, except in the New York City schools where students take the 2-year Regents after only 1 year, Regents grades in machine shorthand are higher.

III. OCCUPATIONAL USE OF MACHINE SHORTHAND

Conclusions

1. The higher proportion of machine graduates not using these vocational skills is significant, even when graduates of the 1-year New York City programs are excluded from the comparison. This should be of great concern to the business educators contemplating the introduction of a machine shorthand program. Several conjectures may be made, but an analysis of student input variables in personality, motivation, marital status, and other factors comparing employed and unemployed machine and manual writers, would be a major study in itself.

2. Manual shorthand writers are more successful in obtaining employment utilizing their shorthand skills than machine writers.

3. There was little difference between the job descriptions of machine and manual writers. Use of the machine did not impose more stenographic duties than secretarial duties upon the stenographer, and there was no heavy ratio of court or freelance reporters among the machine writers.

4. Of those graduates who were not currently utilizing their shorthand skills, the largest group was of those who were continuing their education. A large percentage of both machine (21.3 percent) and manual (30.2 percent) writers who were high school graduates or 2-year college graduates had chosen to continue their education.

5. Machine shorthand was not significantly favored by any particular business or industry. Both systems appeared equally distributed in all businesses except in banking and finance, which had a proportionately low representation of machine writers.

6. Manual shorthand writers who for some reason were not currently employed utilizing their skills (homemakers, students, managers), were more likely to have had previous employment as stenographers than machine writers who tended to have been previously employed in nonstenographic occupations.

7. Manual writers were more successful in obtaining part-time employment than machine writers. A slightly higher percentage of manual writers received salary promotions than machine writers.

8. Machine writers in general received *higher* salaries than manual writers.

9. Machine writers received proportionately *fewer* salary promotions than manual writers.

10. Although more than 90 percent of both machine and manual writers accepted employment with fewer than 4 interviews, there is a tendency for manual writers to be more selective about the positions they accept.

11. Only a small percentage of machine writers (12 percent) reported that the use of the machine had created a problem in obtaining employment.

12. Almost half of the machine writers believed the machine was an advantage in obtaining stenographic employment.

13. Personnel officers made twice as many favorable comments as negative comments concerning the use of the shorthand machine.

Recommendations

1. Further studies should be conducted to determine possible reasons why graduates of both machine and manual curriculums are not currently in occupations using their skills.

2. Since a large percentage of shorthand students go on to higher education and thus are often lost to the secretarial occupations, measures should be taken to plan secretarial curriculums suited to the lower ability student who is not as likely to go on to higher education and who more urgently needs occupational training. Extended curriculums in both machine and manual shorthand should be opened to all students; such curriculums would place heavy emphasis on the mechanics of English and the personal qualities desirable in the secretarial occupations.

3. There should be less selectivity in admitting students to shorthand curriculums. Selectivity limits the major proportion of secretarial students to the group above the median who are often motivated toward higher education.

4. Evidence was overwhelming that machine shorthand curriculums should not be promoted on a statewide basis except where established to meet the needs of the community. Before programs in machine shorthand are implemented in any community, a study of local business and industry should be made to determine the

acceptability of machine writers. This is particularly crucial in the smaller communities.

5. Educators should take every opportunity in their contacts with business and industry to provide them with information about the shorthand machine. It is merely another system of shorthand such as Gregg, Pitman, or any alphabetic system and should be as readily accepted. The needs of business in this occupational field are so extensive that there is room for all systems of shorthand in the stenographic occupations.

IV. GENERAL CONCLUSION

The solution to the main problem, which sought information concerning the vocational use of machine shorthand, revealed that the machine shorthand writers were *more successful* occupationally than the manual shorthand writers in *only one* of the factors examined in the study. Graduates of the machine shorthand curriculums who were utilizing their shorthand skills received higher salaries than the manual shorthand graduates who were employed utilizing their shorthand skills.

Manual shorthand writers were more successful occupationally than the machine shorthand writers in the following ways:

1. Obtaining employment using their shorthand skills.
2. Obtaining part-time employment using their shorthand skills.
3. Receiving promotions which included salary increments.

The results of the study did not indicate that the comparatively greater success of the manual shorthand writers was a result of any major differences in curriculum offerings or in the educational background of the machine and manual writers. Furthermore, they do not imply that a *blanket* recommendation could be made by State and local supervisors that machine shorthand programs should be introduced in public high schools or colleges at this time. Rather, the basis for introduction of such programs should be considered on an individual school system basis, with the factors of local employment and acceptance, cost, faculty competency, and the nature of the student group to be served by this program given closest consideration.

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APPENDIX A

Table I

DISTRIBUTION OF THE LENGTH OF TIME SCHOOLS INVESTIGATED HAD A CURRICULUM IN MACHINE SHORTHAND

Number of Years	Number of Schools
More than 8	0
8*	2
7	0
6	2
5	2
4	1
3	2
2	2
1	3
Total Number of Schools Reporting	14

* This represents the longest period of time a public school in the State had a program in machine shorthand.

Table II

DISTRIBUTION OF THE LENGTH OF TIME SCHOOLS INVESTIGATED HAD A CURRICULUM IN MANUAL SHORTHAND

Number of Years	Number of Schools
50 or More	2
40-49	2
30-39	1
20-29	3
10-19	6
Less than 10	0
Total Number of Schools Reporting	14

Table III

COMPARISON OF SEQUENCE OF CURRICULUMS OFFERED IN MACHINE AND MANUAL SHORTHAND

SCHOOLS	MACHINE			MANUAL		
	Number of Schools with a 1-year Curriculum	Number of Schools with a 2-year Curriculum	Number of Schools with a 3-year Curriculum	Number of Schools with a 1-year Curriculum	Number of Schools with a 2-year Curriculum	Number of Schools with a 3-year Curriculum
2-year Colleges.....	0	2	0	0	2	0
New York City Secondary Schools.....	5*	0	0	0	0	5
Upstate and Long Island Seconday Schools.....	1	2	4	0	1	6
TOTALS.....	6	4	4	0	3	11

* Three of these 5 schools permit students to join with manual shorthand class for second and third year of machine shorthand instruction.

Table IV

COMPARISON OF ENROLLMENT FIGURES IN NEW YORK STATE FOR MACHINE AND MANUAL SHORTHAND CURRICULUMS

Enrollment	MACHINE						MANUAL					
	Girls		Boys		Total		Girls		Boys		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
First-year	298	94.6	17	5.4	315	100.0	1,878	99.6	7	.4	1,885	100.0
Second-year	185	95.9	8	4.1	193	100.0	1,027	99.7	3	.3	1,030	100.0
Third-year	40	95.2	2	4.8	42	100.0	387	99.7	1	.3	388	100.0
Totals	523	95.1	27	4.9	550	100.0	3,292	99.7	11	.3	3,303	100.0

Table V

COMPARISON OF THE NUMBER OF CLASS PERIODS PER WEEK

	MACHINE	MANUAL
2-Year Colleges		
First year	5	5
Second year	5/4[1]	5/4[1]
New York City Secondary Schools		
First year	10	5
Second year	...[2]	10
Third year	...	10
Upstate and Long Island Secondary Schools		
First year	5	5
Second year[3]	10/5[4]	10
Third year	10[5]	10

[1] During the second half of the second year 1 of the 2 schools met only 4 periods a week.

[2] Second and third year not offered except as joined with manual classes.

[3] Six of the 7 schools reported offering a second year.

[4] One school met only 5 periods a week during the second year.

[5] Three of the 7 schools reported offering a third year.

Table VI

A COMPARISON OF MINIMUM SPEED STANDARDS FOR PASSING GRADES IN MACHINE AND MANUAL SHORTHAND

	MACHINE			MANUAL		
	First Year	Second Year	Third Year	First Year	Second Year	Third Year
2-year Colleges.....	80	120	.....	80	120	.....
New York City Secondary Schools....	50–80[1]	.....	.....	40–50[2]	80	90–100[3]
Upstate and Long Island Secondary Schools....	50–100[4]	80–140[5]	100–120[6]	50–60[7]	80	90–120[8]

[1] Of the 5 schools reporting, 3 indicated 80 wpm as a minimum speed standard for passing; 1 indicated 60 wpm as a minimum speed for passing; and 1 indicated 50 wpm as a minimum speed for passing.

[2] Of the 5 schools reporting, 4 indicated 40 wpm as a minimum speed standard for passing and 1 indicated 50 wpm as a minimum speed standard for passing.

[3] Of the 5 schools reporting, 4 indicated 100 wpm as a minimum speed standard for passing and 1 indicated 90 wpm as a minimum speed standard for passing.

[4] Of the 7 schools reporting, 50 wpm was minimum speed standard in 1 school; 60 wpm in 2 schools; 70 wpm in 2 schools; 80 wpm in 1 school; and 100 wpm in 1 school.

[5] Of the 6 schools reporting, 5 had 80 wpm as a minimum speed standard for passing and 1 had 140 wpm as a minimum speed standard for passing.

[6] Of the 3 schools reporting, 2 had 100 wpm as a minimum speed standard for passing; while 1 had 120 wpm as a minimum speed standard for passing.

[7] Of the 7 schools reporting, 4 had 50 wpm as a minimum speed standard for passing and 3 had 60 wpm as a minimum speed standard for passing.

[8] Of the 6 schools reporting, 2 had 90 wpm as a minimum speed standard for passing; 3 had 100 wpm as a minimum speed standard for passing; and 1 had 120 wpm as a minimum speed standard for passing.

Table VII

COMPARISON OF THE NUMBER OF FACULTY IN THE BUSINESS DEPARTMENTS PREPARED TO TEACH MACHINE AND MANUAL SHORTHAND

Schools	Total Number of Shorthand Teachers	Number of Teachers Able To Teach Machine Shorthand	Number of Teachers Able To Teach Machine Shorthand Only	Number of Teachers Able To Teach Manual Shorthand	Number of Teachers Able To Teach Manual Shorthand Only	Number of Teachers Able To Teach Machine & Manual Shorthand
2-Year Colleges.....	11	9	0	11	2	9
New York City Secondary Schools.....	66	10	0	66	56	10
Upstate and Long Island Secondary Schools.....	38	13	4	34	25	9
Totals.....	115	32	4	111	83	28

Table VIII-A

ANALYSIS OF RESPONSES FROM GRADUATES OF NEW YORK CITY SECONDARY SCHOOLS

	Responses		No Response		Returned for Change in Address		Total	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent
Machine Shorthand (Questionnaire 2).....	132	44.0	149	49.7	19	6.3	300	100
Manual Shorthand (Questionnaire 3).....	135	43.4	138	44.4	38	12.2	311	100

Table VIII-B

ANALYSIS OF RESPONSES FROM GRADUATES OF UPSTATE AND LONG ISLAND SECONDARY SCHOOLS

Machine Shorthand (Questionnaire 2).....	107	50.5	96	45.3	9	4.2	212	100
Manual Shorthand (Questionnaire 3).....	122	48.2	127	50.2	4	1.6	253	100

Table VIII-C

ANALYSIS OF RESPONSES FROM GRADUATES OF TWO-YEAR COLLEGES

	Responses		No Response		Returned for Change in Address		Total	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent
Machine Shorthand (Questionnaire 2).....	116	62.0	50	26.8	21	11.2	187	100
Manual Shorthand (Questionnaire 3).....	120	64.5	47	25.3	19	10.2	186	100

Table VIII-D

COMPARISON OF THE CUMULATIVE GRADE AVERAGE IN ALL SUBJECTS STUDIED FOR GRADUATES OF MACHINE AND MANUAL SHORTHAND CURRICULUMS

SCHOOLS	MACHINE			MANUAL		
	Final Grade Average	Number of Returns Reporting	Percent of Returns Reporting	Final Grade Average	Number of Returns Reporting	Percent of Returns Reporting
2-year Colleges	72.8	115	99.1	73.4	120	100.0
New York City Secondary Schools	72.7	122	92.4	74.9	121	89.6
Upstate and Long Island Secondary Schools	74.2	104	97.2	76.2	116	95.1
Totals for State of New York	73.4	341	96.1	74.8	357	94.7

Table IX

COMPARISON OF THE CURRENT USE OF SHORTHAND SKILLS BETWEEN GRADUATES OF MACHINE AND MANUAL SHORTHAND

SCHOOLS	MACHINE					MANUAL				
	Currently Using Stenographic Skill		Currently Not Using Stenographic Skill		Total Number Reporting	Currently Using Stenographic Skill		Currently Not Using Stenographic Skill		Total Number Reporting
	Number Reporting	Percent of Total	Number Reporting	Percent of Total		Number Reporting	Percent of Total	Number Reporting	Percent of Total	
2-year Colleges.....	63	54.3	53	45.7	116	91	75.8	29	24.2	120
New York City Secondary Schools.....	16	12.1	116	87.9	132	55	40.7	80	59.3	135
Upstate and Long Island Secondary Schools.....	13	12.1	94	87.9	107	46	37.7	76	62.3	122
TOTALS.....	92	25.8	263	74.2	355	192	50.9	185	49.1	377

Table X

OCCUPATIONAL TITLES OF GRADUATES NOT CURRENTLY EMPLOYED USING THEIR STENOGRAPHIC SKILLS

Job Descriptions	MACHINE								MANUAL							
	2-Year Colleges		New York City Secondary Schools		Upstate and Long Island Secondary Schools		Total		2-Year Colleges		New York City Secondary Schools		Upstate and Long Island Secondary Schools		Total	
	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent
Clerks	0	0.0	15	12.9	21	22.3	36	13.7*	0	0.0	10	12.5	12	15.8	22	11.9*
Bookkeepers	1	1.9	3	2.6	1	1.1	5	1.9*	0	0.0	2	2.5	2	2.6	4	2.2*
Receptionists	0	0.0	2	1.7	0	0.0	2	.8*	0	0.0	2	2.5	0	0.0	2	1.1*
Other Office Jobs	29	54.7	28	24.1	27	28.7	83	31.5*	10	34.5	21	26.2	10	13.2	41	22.2*
Nonoffice Jobs	1	1.9	21	18.1	10	10.6	32	12.2	2	6.9	13	16.3	7	9.2	22	11.9
Unemployed	2	3.8	0	0.0	4	4.3	6	2.3	0	0.0	0	0.0	1	1.3	1	.5
Students	4	7.5	38	32.8	16	17.0	56	21.3	2	6.9	24	30.0	30	39.5	56	30.2
Homemakers	16	30.2	9	7.8	15	16.0	43	16.3	15	51.7	8	10.0	14	18.4	37	20.0
Total Number of Grads. Reporting	53	100.0	116	100.0	94	100.0	263	100.0	29	100.0	80	100.0	76	100.0	185	100.0

* Sub-total in related occupations; see page 12.

Table XI

COMPARISON OF SALARIES RECEIVED BY CURRENTLY EMPLOYED MACHINE AND MANUAL WRITERS

SALARY	MACHINE								MANUAL							
	2-Year Colleges		New York City Secondary Schools		Upstate and Long Island Secondary Schools		Totals		2-Year Colleges		New York City Secondary Schools		Upstate and Long Island Secondary Schools		Totals	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
to $3500.....	6	9.5	0	0.0	0	0.0	6	6.5	6	6.6	0	0.0	11	23.4	17	8.8
$3500 to $3999....	2	3.2	0	0.0	3	23.1	5	5.4	13	14.3	6	10.9	14	29.8	33	17.1
$4000 to $4499....	10	15.9	0	0.0	5	38.5	15	16.3	13	14.3	16	29.1	11	23.4	40	20.7
$4500 to $4999....	20	31.7	7	43.8	2	15.4	29	31.6	17	18.7	20	36.4	5	10.6	42	21.8
$5000 to $5499....	14	22.2	5	31.2	3	23.0	22	23.9	24	26.3	10	18.2	4	8.5	38	19.7
$5500 and over....	11	17.5	4	25.0	0	0.0	15	16.3	18	19.8	3	5.4	2	4.3	23	11.9
TOTALS.....	63	100.0	16	100.0	13	100.0	92	100.0	91	100.0	55	100.0	47	100.0	193	100.0

Table XII

THE USE OF MACHINE SHORTHAND AS A LIABILITY IN OBTAINING STENOGRAPHIC EMPLOYMENT

SCHOOLS	Yes		No		Totals	
	No.	Per-cent	No.	Per-cent	No.	Per-cent
2-year Colleges.....	7	11.1	56	88.9	63	100.0
New York City Secondary Schools.....	2	12.5	14	87.5	16	100.0
Upstate and Long Island Secondary Schools.....	2	15.4	11	84.6	13	100.0
Totals.....	11	12.0	81	88.0	92	100.0

Table XIII

THE USE OF MACHINE SHORTHAND AS AN ASSET IN OBTAINING STENOGRAPHIC EMPLOYMENT

SCHOOLS	Yes		No		Totals	
	No.	Per-cent	No.	Per-cent	No.	Per-cent
2-year Colleges.....	27	42.9	36	57.1	63	100.0
New York City Secondary Schools.....	10	62.5	6	37.5	16	100.0
Upstate and Long Island Secondary Schools.....	7	53.8	6	46.2	13	100.0
TOTALS.....	44	48.0	48	52.0	92	100.0

Table XIV

MEANS OF ACQUISITION OF STENOGRAPHIC MACHINE

	2-year Colleges		New York City Secondary Schools		Upstate and Long Island Secondary Schools		Totals	
	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent
Company Provided...	0	0.0	0	0.0	0	0.0	0	0.0
Purchased New.....	54	85.7	7	43.8	8	61.5	69	75.0
Purchased Used.....	8	12.7	5	31.3	3	23.1	16	17.4
Gift.....	1	1.6	3	18.7	2	15.4	6	6.5
Other.....	0	0.0	1	6.2	0	0.0	1	1.1
TOTALS.....	63	100.0	16	100.0	13	100.0	92	100.0

APPENDIX B

The University of the State of New York

THE STATE EDUCATION DEPARTMENT

Albany, New York

Bureau of Occupational Education Research

Machine Shorthand Study: Questionnaire # 1

(For completion by educational institution)

Office use only

I. School data

A. Name of school _____

B. Address of school

1. Street location _____
2. City or village _____
3. School district _____

C. Size of school — (check one)

1. Under 1000 students ..... 1. _____
2. 1000 to 2999 students ..... 2. _____
3. 3000 to 4999 students ..... 3. _____
4. 5000 or more students ..... 4. _____

D. Size of city or town — (check one)

1. Under 10,000 population ..... 1. _____
2. 10,000 to 99,999 ..... 2. _____
3. 100,000 to 499,999 ..... 3. _____
4. 500,000 to 999,999 ..... 4. _____
5. 1,000,000 or more ..... 5. _____

E. Grade level of school — (check one)

1. Grades 7-12 ..... 1. _____
2. Grades 8-12 ..... 2. _____
3. Grades 9-12 ..... 3. _____
4. Grades 10-12 ..... 4. _____
5. Other (i.e., adult or 2-year college program) ..... 5. _____

Please explain: _____

_____

F. Proximity to metropolitan location

1. Indicate type of area in which the school is located (check one)

   1. Rural ..... 1. _____
   2. Suburban ..... 2. _____
   3. Urban ..... 3. _____

2. Is the school within commuting distance of an urban area? (check one) ..... 1. _____ Yes
   2. _____ No

3. If yes, indicate the urban area.
   (i.e. New York, Buffalo, Albany, etc.)
   _____

Code

Office Use

4. If the school is within commuting distance of an urban area, approximately how many miles is the commuting distance? (check one)

   1. Less than 10 miles ..... 1. _____
   2. 10-19 miles ..... 2. _____
   3. 20-29 miles ..... 3. _____
   4. 30-39 miles ..... 4. _____
   5. 40-49 miles ..... 5. _____
   6. 50 miles or more ..... 6. _____

II. The Machine Shorthand Instructional Program

A. How long has the school had a program in machine shorthand? _____ Yrs.

B. On what basis are students selected for the machine shorthand program? (check one)

1. Voluntary (Students decide which program to pursue, machine or manual) ..... 1. _____
2. Student's program is determined by his ability ..... 2. _____

   Please explain: _____
   _____
   _____

3. Other ..... 3. _____
   Please explain. List criteria, including any standardized

tests, grade point averages, or combination of factors which may determine program availability.

_____

_____

C. Does the school provide the stenograph machine? (check one) ..... 1. _____ Yes
If the above answer is *yes,* answer the appropriate questions below. 2. _____ No

1. These machines are: (check one)
   1. Purchased ..... 1. _____
   2. Rented ..... 2. _____
   3. Purchased and rented ..... 3. _____
2. If machines are rented, what is the cost to the school for each machine per annum? ..... $ _____
3. How many machines does the school rent? ..... _____
4. If machines are purchased, what has been the cost to the school for each machine? ..... $ _____
5. How many machines does the school own? ..... _____
6. Estimate the annual service charge per machine ..... $ _____
7. Estimate the depreciation value of each machine per annum ..... $ _____

If the above answer is *no,* please indicate if purchase or rental arrangements are made by the school for the students.

_____

_____

D. How long is the sequence in machine shorthand (check one)

1. One year ..... 1. _____
2. Two years ..... 2. _____
3. Three years ..... 3. _____
4. Other ..... 4. _____

Please explain: _____

_____

E. Does the school provide the textbooks for the courses in machine shorthand? (check one) ..... 1. _____ Yes
2. _____ No

If yes, answer the following questions.

1. What texts are used for the first-year course in machine shorthand? (Indicate the name of the text, the cost of each book, and the number purchased by the school district.)

Name of Text	*Cost per Book*	*Number Purchased by School*

2. What texts are used for the second-year course in machine shorthand? (Indicate the name of the text, the cost of each book, and the number purchased by the school district.)

Name of Text	*Cost per Book*	*Number Purchased by School*

3. What texts are used for the third-year course in machine shorthand? (Indicate the name of the text, the cost of each book, and the number purchased by the school district.)

Name of Text	*Cost per Book*	*Number Purchased by School*

4. How frequently does the school district replace these textbooks? ..... Every _____ Yrs.

F. Is homework practice on the machine a part of the course requirement? (check one) ..... 1. _____ Yes
2. _____ No

If above answer is *yes,* please answer the following questions.

1. Are students permitted to take the machines home for practice? (check one) ..... 1. _____ Yes
2. _____ No

2. Are students required to provide their own machines for practice? (check one) ..... 1. _____ Yes
2. _____ No

3. If students are required to provide their own machines for home practice, what purchase or rental plans are made available?

_____

_____

G. How many girls are enrolled in the machine shorthand program?

1. First year students ..... 1. _____
2. Second year students ..... 2. _____
3. Third year students (if offered) ..... 3. _____
4. Other ..... 4. _____

Please explain _____

_____

H. How many boys are enrolled in the machine shorthand program?

1. First year students ..... 1. _____
2. Second year students ..... 2. _____
3. Third year students (if offered) ..... 3. _____
4. Other ..... 4. _____

Please explain _____

_____

I. How many periods per week does the machine shorthand class meet? (This may include secretarial practice where part of the period is devoted to shorthand training or practice on an individual basis.)

1. First year ..... 1. _____
2. Second year ..... 2. _____
3. Third year ..... 3. _____
4. Other ..... 4. _____

Please explain _____

_____

J. Is a course in secretarial practice offered which includes machine shorthand? (check one) ..... 1. _____ Yes
2. _____ No

1. Where in the curriculum is this course offered? (check one)
   1. At the end of one year of shorthand training .... 1. _____
   2. At the end of two years of shorthand training ... 2. _____
   3. At the end of three years of shorthand training .. 3. _____
   4. Other ..... 4. _____

   Please explain _____

   _____

2. Are machine shorthand writers and manual shorthand writers combined in the secretarial practice course? (check one) ..... 1. _____ Yes
   2. _____ No

K. What are the speed requirements for a passing grade in machine shorthand?

1. At the end of one year ..... 1. _____ WPM
2. At the end of two years ..... 2. _____ WPM
3. At the end of three years ..... 3. _____ WPM
4. Other ..... 4. _____ WPM

Please explain _____

_____

L. Other criteria (if any) for passing _____

_____

M. Have there been any studies, formal or informal, of the effectiveness of the machine shorthand training program at this school? (check one) ..... 1. _____ Yes
2. _____ No

Please explain _____

_____

III. The Manual Shorthand Curriculum

A. How long has the school had a program in manual shorthand? ..... _____ Yrs.

B. On what basis are students selected for the manual shorthand program? (check one)

1. Voluntary — Students decide which curriculum to pursue, machine or manual ..... 1. _____
2. Student's curriculum is determined by his ability .... 2. _____

Please explain _____

_____

3. Other ..... 3. _____

Please explain. List criteria including any standardized tests, grade point averages, or combinations of factors which may determine curriculum.

_____

_____

C. How long is the sequence in manual shorthand? (check one)

1. One year ..... 1. _____
2. Two years ..... 2. _____
3. Three years ..... 3. _____
4. Other ..... 4. _____

Please explain _____

_____

D. Does the school provide the textbooks for the courses in manual shorthand? (check one) ..... 1. _____ Yes
2. _____ No

If yes, answer the following questions.

1. What texts are used for the first-year course in manual shorthand? (Indicate the name of the text, the cost of each book, and the number purchased by the school district.)

Name of Text	*Cost per Book*	*Number Purchased by School*

2. What texts are used for the second-year course in manual shorthand? (Indicate the name of the text, the cost of each book, and the number purchased by the school district.)

Name of Text	*Cost per Book*	*Number Purchased by School*

3. What texts are used for the third-year course in manual shorthand? (Indicate the name of the text, the cost of each book, and the number purchased by the school district.)

Name of Text	*Cost per Book*	*Number Purchased by School*

E. What system in manual shorthand is taught? (check one)

1. Gregg ..... 1. _____
2. Pitman ..... 2. _____
3. Other ..... 3. _____

Please explain _____

_____

F. How many girls are enrolled in the manual shorthand curriculum?

1. First year students ..... 1. _____
2. Second year students ..... 2. _____
3. Third year students ..... 3. _____
4. Other ..... 4. _____

Please explain _____

_____

G. How many boys are enrolled in the manual shorthand curriculum?

1. First year students ..... 1. _____
2. Second year students ..... 2. _____
3. Third year students ..... 3. _____
4. Other ..... 4. _____

Please explain _____

_____

H. How many periods per week does the manual shorthand class meet?

1. First year ..... 1. _____
2. Second year ..... 2. _____
3. Third year ..... 3. _____
4. Other ..... 4. _____

(This may include secretarial practice where part of the period is devoted to shorthand training or practice periods on individual basis.)

Please explain _____

_____

I. Is a course in secretarial practice offered which includes manual shorthand? (check one) ..... 1. _____ Yes
2. _____ No

1. Where in the program is this course offered? (check one)
   1. At the end of one year of shorthand training .... 1. _____
   2. At the end of two years of shorthand training .... 2. _____
   3. At the end of three years of shorthand training ... 3. _____
   4. Other ..... 4. _____

   Please explain _____

   _____

2. Are machine shorthand writers and manual shorthand writers combined in the secretarial practice course? (check one) ..... 1. _____ Yes
   2. _____ No

J. What are the speed requirements for a passing grade in manual shorthand?

1. At the end of one year ..... 1. _____ WPM
2. At the end of two years ..... 2. _____ WPM
3. At the end of three years ..... 3. _____ WPM
4. Other ..... 4. _____ WPM

Please explain _____

_____

_____

K. Other criteria (if any) for passing.

_____

_____

_____

IV. Shorthand Faculty

A. How many teachers of shorthand are on the faculty of the business department? ..... _____

1. How many can teach manual shorthand only? ..... _____
2. How many can teach machine shorthand only? ..... _____
3. How many can teach both machine and manual shorthand? ..... _____

B. Indicate how each teacher of machine shorthand received his training in the subject.

1. Teacher # 1 — (check one)
   1. Machine shorthand workshop ..... 1. _____
   2. Inservice course ..... 2. _____
   3. Correspondence course ..... 3. _____
   4. Other ..... 4. _____

   Please explain _____

   _____

2. Teacher # 2 — (check one)
   1. Machine shorthand workshop ..... 1. _____
   2. Inservice course ..... 2. _____
   3. Correspondence course ..... 3. _____
   4. Other ..... 4. _____

   Please explain _____

   _____

3. Teacher # 3 — (Check one)
   1. Machine shorthand workshop ..... 1. _____
   2. Inservice course ..... 2. _____
   3. Correspondence course ..... 3. _____
   4. Other ..... 4. _____

   Please explain _____

4. Teacher # 4 — (check one)
   1. Machine shorthand workshop ..... 1. _____
   2. Inservice course ..... 2. _____
   3. Correspondence course ..... 3. _____
   4. Other ..... 4. _____

   Please explain _____

V. Placement

A. What has been the role of the school or individual teacher in obtaining placement for graduate students? Please explain _____

B. Are there specific employers with whom the school regularly places machine shorthand writers? (check one) ..... 1. _____ Yes
2. _____ No

C. If yes, please indicate the names and addresses of these employers.

Employer # 1
Name _____
Address _____

Employer # 2
Name _____
Address _____

Employer # 3
Name _____
Address _____

Employer # 4
Name _____
Address _____

D. Approximately how many machine shorthand graduates do these firms employ each year? (check one for each employer)

Employer # 1: Less than 10___ 10-19___ 20 or more___
Employer # 2: Less than 10___ 10-19___ 20 or more___
Employer # 3: Less than 10___ 10-19___ 20 or more___
Employer # 4: Less than 10___ 10-19___ 20 or more___

2

The University of the State of New York

THE STATE EDUCATION DEPARTMENT

Albany, New York

Bureau of Occupational Education Research

Machine Shorthand Study: Questionnaire # 2

(For completion by graduates of *machine shorthand* program)

1. Name _____

2. Address
   a. Street location _____
   b. City or Village _____

3. Are you presently employed in a position utilizing your machine stenographic skills? (check one) ..... 1. _____ Yes
   2. _____ No

If answer to question *3* is *Yes,* please skip this section and move on to question *4.*

If answer to question *3* is *No,* please answer this section and return the questionnaire.

3a. What is your present occupation? _____

b. Have you ever been employed in a position utilizing your machine stenographic skills? (check one)

1. _____ Yes

Please explain: (Give information including the name of your employer, your job title and your reason for leaving.)

_____
_____
_____
_____

2. _____ No

Please explain: (Give information including whether or not you ever actively sought employment as a machine stenographer.)

_____
_____
_____
_____

c. Have you had occasion to seek part-time employment utilizing your skills as a machine stenographer?
(check one) ..... 1. _____ Yes
2. _____ No

d. Were you successful in securing part-time employment?
(check one) ..... 1. _____ Yes
2. _____ No

4. What is your occupational title? _____

5. Employer

   a. Name _____

   b. Address _____

   c. Type of business (check one)

      1. Manufacturing ..... 1. _____
      2. Banking or finance ..... 2. _____
      3. Insurance ..... 3. _____
      4. Utility ..... 4. _____
      5. Government (federal, state, or local) ..... 5. _____
      6. Retailing ..... 6. _____
      7. Other ..... 7. _____

      Please explain: _____

6. Please check the job description which most closely resembles your occupation.

   1. Performance of general office work in relieving executives of minor executive and clerical duties, including making appointments, interviewing callers, answering telephone calls, writing routine correspondence on own initiative and taking dictation on the shorthand machine from one executive primarily and transcribing the dictated material on a typewriter ..... 1. _____

   2. Performance of varied clerical duties including taking dictation from several different executives and transcribing the dictated material on a typewriter ..... 2. _____

7. What is your present annual salary? (check one)

   1. Less than $3500 ..... 1. _____
   2. $3500-$3999 ..... 2. _____
   3. $4000-$4499 ..... 3. _____
   4. $4500-$4999 ..... 4. _____
   5. $5000-$5499 ..... 5. _____
   6. $5500 or more ..... 6. _____

8. List your employers, job titles, and salaries since graduation. (List most recent job first.)

EMPLOYER	JOB TITLE	ANNUAL SALARY	FROM—TO

9. Did you have any trouble getting a job as a stenographer? (check one) ..... 1. _____ Yes
2. _____ No

Please explain: _____

_____

10. Did the use of machine shorthand cause any problems in seeking employment as a stenographer? (check one) .... 1. _____ Yes
2. _____ No

Please explain: _____

_____

11. Did the use of machine shorthand present any strengths in seeking employment as a stenographer? (check one) .... 1. _____ Yes
2. _____ No

Please explain: _____

_____

12. Indicate any special comments by an interviewer or prospective employer on your use of machine shorthand.

_____

_____

_____

13. How many interviews did you have with prospective employers before you accepted a position? (check one)

1. 0- 4 ..... 1. _____
2. 5- 8 ..... 2. _____
3. 9-12 ..... 3. _____
4. More than 12 ..... 4. _____

14. How many interviews terminated with firm offer of a job? (check one)

1. 0-2 ..... 1. _____
2. 3-4 ..... 2. _____
3. 5-6 ..... 3. _____
4. More than 6 ..... 4. _____

15. Have you received any promotions in job title as a result of your machine shorthand skills? (check one)

1. Yes ..... 1. _____
2. No ..... 2. _____
3. Partially ..... 3. _____

Please explain: _____

_____

16. Do you have any supervisory responsibilities? (check one)

1. _____ Yes
2. _____ No

Please explain: _____
_____
_____

17. Part-time employment

a. Have you had occasion to seek part-time employment utilizing your skills as a machine stenographer? (check one)

1. _____ Yes
2. _____ No

b. Were you successful in securing employment? (check one)

1. _____ Yes
2. _____ No

18. How did you acquire your stenograph machine? (check one)

1. Company provided ..... 1. _____
2. Purchased new ..... 2. _____
3. Purchased used ..... 3. _____
4. Gift ..... 4. _____
5. Other ..... 5. _____

Please explain: _____
_____

19. Have you ever attempted learning another system of shorthand? (check one) ..... 1. _____ Yes
2. _____ No

a. If *yes,* what system? (check one)

1. Gregg ..... 1. _____
2. Pitman ..... 2. _____
3. Other ..... 3. _____

Please explain: _____
_____

b. What was your reason for changing? Please explain: _____
_____
_____
_____

Please return this in the attached postage paid envelope. Thank you.

The University of the State of New York

THE STATE EDUCATION DEPARTMENT

Albany, New York

Bureau of Occupational Education Research

Machine Shorthand Study: Questionnaire # 3
(For completion by graduates of *manual shorthand* program)

1. Name _____

2. Address

   a. Street location _____

   b. City or Village _____

3. Are you presently employed in a position utilizing your stenographic skills? (check one) ..... 1. _____ Yes
   2. _____ No

   If answer to question *3* is *Yes,* please skip this section and move on to question *4.*

   If answer to question *3* is *No,* please answer this section and return the questionnaire.

3a. What is your present occupation? _____

b. Have you ever been employed in a position utilizing your stenographic skills? (check one)

1. _____ Yes	2. _____ No
Please explain: (Give information including the name of your employer, your job title and your reason for leaving.)	Please explain: (Give information including whether or not you ever actively sought employment as a machine stenographer.)
_____	_____
_____	_____
_____	_____
_____	_____

c. Have you had occasion to seek part-time employment utilizing your skill as a stenographer? (check one) ..... 1. _____ Yes
   2. _____ No

d. Were you successful in securing part-time employment? (check one) ..... 1. _____ Yes
   2. _____ No

4. What is your occupational title? _____

5. Employer

   a. Name _____

   b. Address _____

   c. Type of business (check one)

      1. Manufacturing ..... 1. _____
      2. Banking or finance ..... 2. _____
      3. Insurance ..... 3. _____
      4. Utility ..... 4. _____
      5. Government (Federal, State, or local) ..... 5. _____
      6. Retailing ..... 6. _____
      7. Other ..... 7. _____

      Please explain. _____

6. Please check the job description which most closely resembles your occupation.

   a. Performance of general office work in relieving executives of minor executive and clerical duties, including making appointments, interviewing callers, answering telephone calls, writing routine correspondence on own initiative and taking dictation primarily from one executive and transcribing on a typewriter ..... 1. _____

   b. Performance of varied clerical duties including taking dictation from several different executives and transcribing the dictated material on a typewriter ..... 2. _____

7. What is your present annual salary? (check one)

   1. Less than $3500 ..... 1. _____
   2. $3500-$3999 ..... 2. _____
   3. $4000-$4499 ..... 3. _____
   4. $4500-$4999 ..... 4. _____
   5. $5000-$5499 ..... 5. _____
   6. $5500 or more ..... 6. _____

8. List your employers, job titles, and salaries since graduation. (List most recent job first.)

EMPLOYER	JOB TITLE	ANNUAL SALARY	FROM—TO

9. How many interviews did you have with prospective employers before you accepted a position? (check one)

1. 0-4 ..... 1. _____
2. 5-8 ..... 2. _____
3. 9-12 ..... 3. _____
4. More than 12 ..... 4. _____

10. How many interviews terminated with firm offer of a job? (check one)

1. 0-2 ..... 1. _____
2. 3-4 ..... 2. _____
3. 5-6 ..... 3. _____
4. More than 6 ..... 4. _____

11. Have you received any promotions in job title as a result of your shorthand skills? (check one)

1. Yes ..... 1. _____
2. No ..... 2. _____
3. Partially ..... 3. _____

Please explain: _____
_____
_____

12. Do you have any supervisory responsibilities? (check one) ..... 1. _____ Yes
2. _____ No

Please explain: _____
_____
_____

13. Part-time employment

a. Have you had occasion to seek part-time employment utilizing your skills as a stenographer? (check one) .. 1. _____ Yes
2. _____ No

b. Were you successful in securing part-time employment? (check one) ..... 1. _____ Yes
2. _____ No

14. Have you ever attempted learning another system of shorthand? (check one) ..... 1. _____ Yes
2. _____ No

a. If *yes*, what system? (check one)

1. Gregg ..... 1. _____
2. Pitman ..... 2. _____
3. Other (i.e., machine, speedwriting) ..... 3. _____

Please explain: _____

_____

b. What was your reason for changing? Please explain: ___

_____

_____

_____

Please return this in the attached postage paid envelope. Thank you.